

Tennessee Pollution Prevention Partnership Success Story



James H. Quillen
VA Medical Center
Engineering Service
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Saving Rinse Water Conserves Water And Energy

The Member

James H. Quillen VA Medical Center is a tertiary care facility providing a full range of patient care services, with state-of-the-art technology as well as education and research. Comprehensive health care is provided through primary care, tertiary care, and long-term care in areas of medicine, surgery, psychiatry, physical medicine and rehabilitation, neurology, oncology, dentistry, geriatrics, and extended care. In addition to providing acute care, the James H. Quillen VA Medical Center offers geriatric and rehabilitation services through its 120-bed Nursing Home Care Unit. The facility also operates a 348-bed Domiciliary that offers a variety of treatment options, which includes a Homeless inpatient treatment program and Homeless Outreach. James H. Quillen VA Medical Center has an active affiliation with the James H. Quillen College of Medicine at East Tennessee State University. The medical school is housed on the grounds of the VA Medical Center and is utilizing the property through Enhanced-Use Leasing agreement. Over 300 University residents, interns, and students are trained at the James H. Quillen VA Medical Center each year. There are also nursing student affiliations with East Tennessee State University, University of Tennessee, Vanderbilt University and five other nursing schools. There are other major university affiliations with our medical center involving dentistry, pharmacy, social work, and psychology. A U.S. National Cemetery is also located on the grounds of the VA.

The Story

The James H. Quillen VA Medical Center has an on site laundry operated by the Environmental Management Service. The laundry, which handles all bedding, uniforms, towels, etc. for the station plus two other VA Medical Centers, processes 3.5 million pounds of laundry per year. Laundry at a medical center must be done in such a manner as to provide a clean/sanitized item, which is subsequently packed in sanitized containers. The laundry utilizes three Braun washer extractors that have five wash and four rinse cycles and operate 14 hours/day and 5 days/week. A

study conducted by representatives of the Engineering and Environmental Management Services established that the final rinse water could be recaptured and then used as the wash cycle for the next load. The first of the wash cycles requires 420 gallons; the final rinse cycle requires 190 gallons. Saving the final rinse water provides 45% of the water required for the beginning of the next wash cycle. With 46 loads of laundry per day, this project conserves significant amounts of water, steam to heat the water (steam is produced in a fuel-fired boiler), and provides cost savings for energy and water.

The Success

This project saves both water and energy because the final hot rinse water is held in an insulated tank and then reused. Thus, there is no need to heat the water from approximately 68°F to 110°F.



The Pollution Prevented

The James H. Quillen VA Medical Center Laundry is saving 2.2 million gallons of water and 820,000 pounds of steam per year. This conservation measure saves the station \$19,480 dollars per year in steam production (\$16,320 equivalent 232,842.25 KwH) as well as the cost of purchasing water from the local municipality. All of this is accomplished while providing clean sanitary, laundry, bedding, uniforms, and towels for staff and patients at the three VA Medical Centers.

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